METHOD OF DEPOSITING TUNGSTEN NITRIDE USING A SOURCE GAS COMPRISING SILICON

a second electrode formed on the dielectric as a layer of [only] tungsten nitride, the layer of tungsten nitride including silicon.

- 49. (Amended) The capacitor of claim 46, wherein the layer of [only] tungsten nitride is conformally deposited by chemical vapor deposition.
- 50. (Amended) The capacitor of claim 46, wherein the layer of [only] tungsten nitride is exposed to silicon based materials, and wherein a boundary between the layer of [only] tungsten nitride and the silicon based materials is characterized by a reduced encroachment of the tungsten nitride into the silicon based materials.
- 52. (Amended) A capacitor, comprising:
- a first electrode formed as a layer of [only] tungsten nitride, the layer of tungsten nitride including silicon;
 - a dielectric disposed on the first electrode; and
 - a second electrode formed on the dielectric.
- 55. (Amended) The capacitor of claim 52, wherein the layer of [only] tungsten nitride is conformally deposited by chemical vapor deposition.
- 56. (Amended) The capacitor of claim 52, wherein the layer of [only] tungsten nitride is exposed to silicon based materials, and wherein a boundary between the layer of [only] tungsten nitride and the silicon based materials is characterized by a reduced encroachment of the tungsten nitride into the silicon based materials.

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111

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- 58. (Amended) A non-planar capacitor, comprising:
 - a polycrystalline silicon film;
 - a dielectric layer disposed on the polycrystalline film; and
- a film of [only] tungsten nitride disposed on the dielectric layer, the film of tungsten nitride including silicon.
- 61. (Amended) The non-planar capacitor of claim 58, wherein the film of [only] tungsten nitride is conformally deposited by chemical vapor deposition.
- 62. (Amended) A non-planar capacitor, comprising:
- a conformal polycrystalline silicon film formed over a substrate and over transistor devices on the substrate;
 - a dielectric layer formed on the conformal polycrystalline silicon film; and
- a film of [only] tungsten nitride conformally deposited on the dielectric layer by chemical vapor deposition, the film of tungsten nitride including silicon.
- 63. (Amended) The non-planar capacitor of claim 62, wherein the film of [only] tungsten nitride is formed by a chemical vapor deposition process that uses ammonia as a source of nitrogen and a gas selected from the group consisting of tungsten hexaflouride and tungsten carbonyl as a source of tungsten.
- 64. (Amended) The non-planar capacitor of claim 62, wherein the film of [only] tungsten nitride is formed by a chemical vapor deposition process that uses a source gas mixture that includes:

ammonia;

- a gas selected from the group consisting of tungsten hexaflouride and tungsten carbonyl; and
- a gas selected from the group consisting of silane, organic silane, and a compound that is a multiple order of silane.

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66. (Amended) A non-planar capacitor, comprising:

- a first electrode;
- a dielectric layer formed on the first electrode; and
- a film of [only] tungsten nitride conformally deposited on the dielectric layer by chemical vapor deposition that uses gases, including:

ammonia;

- a gas selected from the group consisting of tungsten hexaflouride and tungsten carbonyl; and
- a gas selected from the group consisting of silane, organic silane, and a compound that is a multiple order of silane.
- 69. (Amended) An integrated circuit, comprising:
 - a substrate;
- at least one transistor device formed on the substrate and arranged to leave a contact area with the substrate;
 - a non-planar capacitor, including:
 - a first electrode;
 - a second electrode; and
 - a dielectric disposed between the first and the second electrode,
 - wherein at least one of the first electrode and the second electrode includes [only]

 <u>a</u> tungsten nitride <u>layer</u>, and the tungsten nitride <u>layer</u> includes <u>silicon</u>.
- 70. (Amended) The integrated circuit of claim 69, wherein both the first electrode and the second electrode includes [only] a tungsten nitride layer, and the tungsten nitride layer includes silicon.
- 71. (Amended) The integrated circuit of claim 69, wherein the first electrode includes [only] a tungsten nitride layer, and the tungsten nitride layer includes silicon.